

## The Syrian Center for Tobacco Studies: a model of international partnership for the creation of sustainable research capacity in developing countries

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■ One of the main barriers to the development of effective health systems in developing countries lies in the lack of local scientific and professional capacities that can collect and analyse reliable and standardized data about various health problems within the community (Samet et al., 1998). The ability to gather and update information about patterns and trends of various public health problems is crucial for the development of rational public health policy as well as for the prioritisation of health expenditures where material resources are limited. Local, very limited, scientific expertise in developing countries moreover, is constantly faced with lack of funding, poor institutional support, and poor integration within the

international scientific community (Maziak, 2001), making it very difficult to create and sustain research bases in many developing regions of the world. The situation of tobacco control in the EMR, exemplifies this problem. Faced with the full burden of tobacco-related health problems and with signs of propagation of the tobacco epidemic (World Health Report, 2002), most health systems in this region are unable to mount effective tobacco control programs and policies to curb the epidemic (Omar, 2000). Part of the problem lies in the scarcity of expertise capable of collecting reliable information about various aspects of the smoking problem to guide effective tobacco control strategies in the EMR (Maziak, Eissenberg et al., 2004). In addition, little is known about local smoking methods such as narghile, water pipe smoking, which is witnessing a rapid rise in popularity throughout the region, especially among women and youths (Tamim et al., 2003; Chaaya et al., 2003; Maziak, Fouad et al., 2004).

Current trends in smoking and the lack of adequate material and human resources needed to address this major health problem in the EMR and most other developing countries make the current global projections of the future magnitude of the smoking problem chillingly realistic. Such projections anticipate that by the year 2020 tobacco use will be responsible for 8.4 million deaths annually, 70% of them will occur in the developing world (Murray & Lopez, 1996). Addressing the scientific needs of developing countries to more effectively combat the smoking epidemic is, therefore, receiving increasing awareness (World Bank, 1999). However, with the pace of advance in scientific knowledge and information technology, it

becomes clear that even if the will and resources are available to developing countries, building local scientific base in tobacco research will require partnership with advanced institutions with experience in tobacco control science. A recent initiative to increase the ability of developing nations to engage in effective tobacco control research is the International Tobacco and Health Research and Capacity Building Program (Vastag, 2002). The program is sponsored by the Fogarty International Center, FIC, of the National Institutes of Health, NIH, along with eight partners, including five other NIH institutes, National Cancer Institute, National Heart, Lung, and Blood Institute, National Institute of Child Health and Human Development, National Institute on Drug Abuse, and the National Institute of Nursing Research, the Centers for Disease Control and Prevention, the World Health Organization's Tobacco Free Initiative, the Canadian Institutes of Health Research. The goals of the program are to reduce the burden of tobacco use in low- and middle-income nations by conducting observational, interventional, and policy research of local relevance and to build capacity in epidemiological and behavioural research, prevention, treatment, communications, health services, and policy research. This five-year initiative will build partnerships between scientific institutions from developed and developing countries,

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which are seen as crucial to the capacity-building mission of the program. Notably, such an approach goes one step beyond many international projects which tend to produce only short-lived benefits, or even to long term perils due to the tendency to drain scientific expertise from developing to developed countries (Maziak, 2001). So while sustainability of a successful research base in developing countries remains a challenge for this program, its 5-year duration, requirement to spend more than 50% of the funds in the developing country, the possibility for funding to be channelled outside the usual governmental system, and its focus on training to build local capacity in various expertises related to tobacco research hold the promise of creating an environment that can nurture further tobacco related scientific activities in the developing countries. Optimally, scientific groups created under this program will not only be trained to perform high quality research and interventions but also to be able to compete for further funding and survive beyond the 5 year duration of the program.

One of the successful applications under this funding scheme is a project aiming at establishing a national centre for tobacco research in the city of Aleppo in Syria (Maziak, Eissenberg et al., 2004). The Syrian Center for Tobacco Studies, SCTS, will serve as a national and regional resource for tobacco control science, including epidemiological study, clinical research, prevention and cessation intervention development. The centre will also serve as a focal point for the dissemination of information and training relevant to tobacco control research in the EMR. We hope, that through our work at SCTS, to be able to increasingly involve national and regional institutions in our research activity, lobby for more spending and a systematic approach to strengthen research capacity, provide training and job opportunities for researchers in Syria, attract further funding to be able to provide such opportunities, and to partner with various academic and non-academic institutions in Syria in order to link research to policy and services. It is a huge challenge for one small institution, but we believe that having a consistent, systematic, and scientific approach coupled with commitment will enable us to induce positive changes related to research capacity in Syria.

## The Syrian Center for Tobacco Studies; specific aims

In its first five years, work in the centre will focus on the following four major areas:

1. Optimise methods for studying tobacco use and local smoking practices using key informant interviews and focus groups to guide the development of epidemiological, clinical laboratory, and treatment strategies. In the next stage, epidemiological studies will detail the patterns and determinants of tobacco use and cessation in Aleppo, Syria's second-largest city, focusing on cigarette and narghile or water pipe use.
2. Describe, in a clinical laboratory established in Aleppo, the subjective, physiological, and behavioural effects of smoking systems that are popular in, and in some cases unique to, the EMR, such as narghile. This laboratory will be established in Aleppo and will be modelled after a laboratory at Virginia Commonwealth University, VCU, currently directed by one of the principle collaborators on this project, Eissenberg.
3. Test a primary care smoking cessation intervention tailored to the Syrian environment based on data from epidemiological and clinical laboratory research. This intervention will be developed during the first half of the project and will be implemented and tested in the second half.
4. Train Syrian tobacco researchers so that the expertise and resources necessary for sustaining and expanding the SCTS will be in place locally at the project's end. The training component includes a fellowship program for study in the United States, sponsorship of an annual regional tobacco control conference, and expert consultation and resource sharing via the Internet for other researchers working in tobacco control research in the EMR.

## Location and support

There are certain conditions of the proposed location for tobacco related research and training activities that help maximize the likelihood of success. These conditions include the presence of at least nascent expertise in tobacco research to provide groundwork, and interested partners that are willing to provide support and resources. Aleppo, where the SCTS will function, is a major urban centre, 2,500,000 inhabitants, with

one of the leading medical schools in the country and a framework for tobacco control research in place. Physicians and medical students, by virtue of their scientific training and extensive clinical contact with a large percentage of the smoking population, represent an ideal segment of society to involve in research and intervention capacity-building activities. During the last five years, one of the principle collaborators on this project has initiated several smoking-related studies and has trained medical students and post-graduate physicians at Aleppo School of Medicine in tobacco control research (Maziak, 2002). For example, medical students and post-graduate physicians conducted field survey work for studies of smoking among university students (Maziak & Mzayek, 2000a), low-income women (Maziak et al., 2001), physicians (Maziak et al., 1999), and high school students (Maziak & Mzayek, 2000b). Through this work, trainees obtained substantial experience in tobacco epidemiology thus creating a good base of potential researchers who may receive further training and become active participants in tobacco control efforts in this region. The local relationships forged during this pilot work have led to extensive support from several segments of society for the creation of the SCTS, including local and national government, non-profit health agencies, medical practices, educational facilities. Multiple local partners in Aleppo have pledged their support to provide the SCTS with human/ material resources and required infrastructure.

## Overview of the research program

As discussed above, the lack of reliable and up-to-date data concerning various issues related to tobacco use is a major barrier to the development of sound, evidence-based, tobacco control policies and interventions in developing countries (Baris, 2000). What is particularly lacking in Syria as well as the EMR, is an effective smoking cessation program to help local smokers quit, thus, developing such a program was identified as a major goal of this project (Maziak, Eissenberg et al., 2004). Since we cannot jump to intervention development without having sufficient information about smoking and quitting patterns and factors related to them in our target population, we started our

work by conducting basic surveillance of tobacco use patterns, social beliefs surrounding them, and attitudes and behaviours related to tobacco use and quitting (Maziak, Asfar et al., 2004; Maziak, Fouad et al., 2004; Maziak, Rastam et al., 2004). This work will be complimented by more in depth discussion of This work will be complemented by more in depth discussion of tobacco use and quitting features of Syrian smokers and possible cessation strategies using qualitative research methods, such as key informant interview and focus groups (Maziak, Eissenberg et al., 2004). At the same time, laboratory studies are designed to study health and addiction characteristics of local smokers and local smoking methods (Maziak, Eissenberg et al., 2004). Information gained by epidemiological and qualitative research together with laboratory data will then be used to develop and test an effective smoking cessation program for Syrian and EM smokers. Our likely approach in this regard, is to start from existing cessation programs with proven efficacy, and work to modify them to suit Syrian smokers and health system.

## Overview of the training program

Training scientists in the EMR is a prerequisite for developing a sustainable tobacco control infrastructure (Baris et al., 2000). Unfortunately, few training resources are currently available in this region, and generally they cannot cover the scope of expertise required for the creation of a multidisciplinary effective approach to tobacco control research. There is also great deficiency in expertise required for research support, such as data management, project management, technical support, and fund raising. In Syria, for example, graduate or post-doctoral level training is not available for many disciplines from which tobacco scientists are typically drawn, including behavioural and social sciences, epidemiology, public health, and neurosciences. Medical training in Syria provides little in the way of scientific training in tobacco control, since few faculty are currently involved in such research. To develop competency and opportunities in tobacco science in Syria will require an intensive program involving both out-of-country and in-country experiences,

training individuals in relevant research methodologies, e.g., epidemiology, behavioural science, and laboratory science, and also providing relevant training to research support staff, e.g. human subjects training and data management.

SCTS will initiate a research-training program building on the groundwork already in place in Aleppo. The training program will focus on three major areas that are essential for the success of SCTS: 1) **research support training** for key project staff, to include such important areas as grants administration, human subjects training, data management, NIH compliance, and quality assurance procedures; 2) **research methodology training** for post-doctoral level Syrian investigators, including didactic and applied experiences in both Syria and the United States. Short and long term training fellowships will be offered in the United States, at both the University of Memphis/University of Tennessee Health Sciences Center, and Virginia Commonwealth University. These fellowships will provide hands-on training and didactic experience to Syrian professionals who wish to gain expertise in epidemiological-, laboratory-, and clinical-based sciences relevant to tobacco control research; and 3) **dissemination**, involving in-country and out-country activities. In country activities focus on work with policy makers, stakeholders, and the general public in Syria in order to induce changes at the policy level or at least improve awareness of the tobacco-related burden to the society and increase the public demand for tobacco control measures. The out-country activities focus on the dissemination of experiences gained at SCTS to tobacco scientists and health care professionals throughout the EMR by means of sharing information and resources, promoting standardized research tools and approaches, and developing a regional infrastructure and networking that can foster future collaboration in tobacco control science. In Syria, SCTS works in close collaboration with various tobacco related governmental and non-governmental institutions. In particular, we are working closely with the Syrian Ministry of Health and Aleppo Department of Health to try to translate our research findings into sound tobacco control measures and policies. In particular, we are in the process of

developing a smoking cessation program that can be tied later to primary care centres in Syria in order to test it and disseminate it. In this regard an agreement has been reached to open 2-4 pilot cessation services within primary care centres in Aleppo, in order to gauge the applicability, effectiveness, and resources needed for the wider distribution of the cessation program. Regionally, the centre's web page ([www.scts-sy.org](http://www.scts-sy.org)) is a key component in the regional outreach program of the SCTS, where research results, instruments, teaching materials and, training opportunities are shared with health professionals working in tobacco control on the regional level. In addition, a special listserv has been developed recently involving active public health figures on the regional level in order to help disseminate information and foster collaboration. We are also publishing a bi-annual newsletter about our activities and research and distributing it through regular and electronic means to various health institutions and professionals in the EMR. Finally, using its expertise in approaching international funding agencies, SCTS is initiating collaborative applications for funding with other partners nationally and regionally (see sustainability). Thus, we aim to have SCTS not as model that others can follow only, but actually to engage in active collaboration and experience sharing in order to spread our experience and build on it.

## Development of collaboration

This project involves researchers from different backgrounds and cultures, mainly from developed and developing countries. Interestingly, prior to the announcement of the success of the application to establish SCTS, the three main scientists collaborating on this project, Ward, Eissenberg, and Maziak had never sat in one room together, i.e. the project was the child of mere electronic collaboration. This has a symbolic meaning especially in the post Sep 11<sup>th</sup> world, where despite all the wonders of the communication revolution, forces that draw people and nations apart are gaining momentum. Forging and sustaining a Syrian-American collaboration at current times is in itself a big challenge on a variety of levels. Actually, if we have to pick a word to describe best this collaboration, it will be

uncertainty. We were uncertain that the program could will continue in the initial phases of preparing the application, during which Sep 11<sup>th</sup> took place, uncertain whether funds can be allocated to Syria after winning the grant, uncertain whether political developments will allow such a project to continue, and finally, we, as well as our families were uncertain that pursuing such a project is a wise thing given the turbulent nature of the EMR and its relations with to the US. Although most of these uncertainties remain with us today and are likely to stay in the future, this project has been fulfilling in many aspects and has been keeping us busy enough to have any time left to worry about the future.

### Potential barriers and their solutions

Admittedly, some of the difficulties related to this project can arise from the fact that some of the main collaborators will be located several thousands miles away from where the centre will function. Several mechanisms were planned to ensure the active, regular involvement of all investigators and the smooth operation of all research activities. First, one of the chief collaborators on this project, Maziak, will be located in Aleppo for the initial 5 year duration of the project and will oversee all training and research related to the centre. Second, sufficient funds have been allocated to allow the American investigators, Ward and Eissenberg, to spend adequate time in Aleppo to guide the training, implementation, and quality assurance of research protocols. Third, Syrian support staff and research trainees will spend time in the U.S, Memphis and Richmond sites, which will help to ensure standardized operations and good communication.

Another important concern is to ensure the long-term sustainability of the centre beyond the initial 5-year funding period. One important component to achieve this objective is to obtain the “buy in” of diverse stakeholders, and to develop in-country scientific and technical expertise that will allow Syrian professionals to conduct high quality research and compete successfully in the arena of internationally funded tobacco control research efforts. Thus far, this project has involved numerous stakeholders in

tobacco control efforts in Syria and throughout the EMR, including the national and provincial government in Syria, a major medical school, numerous primary health care clinics and physicians, and non-governmental organizations that are dedicated to tobacco control at the local, e.g. Syrian Society Against Cancer, and international, e.g. World Health Organization, levels. We are currently partnering with Aleppo School of Medicine to build a training program for research methodology for postgraduate physicians undertaking performing thesis work at the School of Medicine. Moreover, we are partnering with Aleppo directorate of health to begin a pilot smoking cessation clinics that could be multiplied in the second stage, providing smoking cessation interventions for willing to quit smokers willing to quit. On the regional level, we are building partnership with regional institutions, towards providing regional training opportunities in research, and currently we are preparing an application for the EU to establish a summer school in epidemiology (including grant-writing workshops) in partnership with various national, regional, and international institutions. Finally, SCTS has already demonstrated its ability to attract further funding by obtaining a new grant from the Fogarty International Center of NIH, under the Health, Environment and Economic Development program, to study health and environmental problems of disadvantaged populations in Aleppo, Syria.

The final concern is whether the level of sophistication of an international level research centre suits a developing country's environment. A guiding principle in planning this project has been to apply the highest possible standards to the development and maintenance of SCTS. Certainly, these standards can be learned and applied in developing countries, including those in the EMR. Quality of work can be ensured through the development and constant use of a variety of strategies, including operations manuals, quality assurance guidelines, detailed protocols, clear descriptions of roles and project management, and advanced training. In addition, through its affiliation with the University of Muenster, the project can draw on the expertise available at the Institute of Epidemiology and Social Medicine, one of the partner institutions,

in order to insure high quality of research performance and data management. Of particular help can be the involvement of an external advisory board of tobacco control experts to ensure keep the centre focused while providing feedback regarding ongoing centre activities and future goals. Accordingly, a five-member Advisory Board of internationally recognized tobacco control scientists has been formed for the Center. This advisory board includes: Dr. Dick Clayton, University of Kentucky, USA, Dr. Jack Henningfield, Johns Hopkins University, USA, Dr. Ulrich Keil, University of Muenster, Germany, Dr. Harry Lando, University of Minnesota, USA, and Dr. Fatimah Al Awa Tobacco Free Initiative, EMR Office, WHO, Egypt.

### Summary and remarks

Although in its initial stages of establishment, the Syrian Center for Tobacco Studies provides a pioneer model of international cooperation for the establishment of a sustainable research base in a developing country setting. It addresses the need to create local expertise not only in research methodology, but also in research support and fund raising areas. Several elements were integrated that will maximize the prospects for success of this project, including; the intensive in- and out-country training components of the project, the involvement of diverse national, regional, and international stakeholders, the multidisciplinary approach to tobacco control research adopted by the project, the presence of a local foundation that can support tobacco oriented research in Aleppo, together with the involvement of leading scientists and institutions in all stages of work on this project. The overall goal of SCTS is to forge a sustainable institution which draws on a wide range of complementary expertise and resources from developed and developing nations and serves as a model of scientific excellence and commitment to the health of people in the developing world. Although we understand the limitation to what a small group of people with limited funding can do, we are also optimistic of producing positive impact on the health of people in this country. The main challenge rests with remains within our ability to transfer research results to policies and action. This is a huge task that could be achieved only



with consistent effort to inform politicians and the public about the dimension of the tobacco epidemic, its characteristics in this country, and ways to reduce it. Even if we achieve little nationally on this front, the data we are generating are filling a void in information in the region concerning the tobacco epidemic that is needed to direct health policies.

Carl Sagan wrote: "Whenever our ethnic or national prejudices are aroused, in

times of scarcity, during challenges to national self-esteem or nerve, when we agonize about our diminished cosmic place and purpose, or when fanaticism is bubbling up around us-then, habits of thought familiar from ages past reach for the controls. The candle flame gutters. Its little pool of light trembles. Darkness gathers. The demons begin to stir" (Sagan, 1996). This project above all, reflects the commitment of all scientists involved to work towards building bridges and fostering understanding and cooperation

between people and nations. And what a better way to serve this purpose than having people from diverse cultures and backgrounds working towards common goals and pursuing common good. This commitment echoes as well in the words of Gerald Keusch, Director of FIC about his vision of the role of his centre: "We like to think of our work as the good side of globalism" (Vastag, 2002).

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